SRS Citizen's Advisory Board

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Nuclear Materials Committee Workshop
F-Canyon Complex Deactivation Project

North Augusta Community Center, North Augusta, SC
January 15, 2004

The SRS Citizens Advisory Board (CAB) Nuclear Materials Committee (NMC) met on Thursday, January 15, 8:30 AM, at the North Augusta Community Center, North Augusta, SC. The purpose of this meeting was to host a workshop on the F-Canyon Complex Deactivation Project, and to receive public comment.

Attendance was as follows:

CAB Members	**Stakeholders**	**DOE/Contractors**
- Gerald Devitt	Sam Booher	Sachiko McAlhany, DOE
- Perry Holcomb	Lee Poe	Sherry Southern, DOE
- Wade Waters	Kelly Hunter	George Mishra, DOE
- Bill Willoughby	Carl Mazzola	John Reynolds, DOE
- William Lawrence	Mike French	Charles Harris, DOE
Bill Lawless	Karen Patterson	Jim Bolen, DOE
Murray Riley	Scott Flickenger	Roger Rollins, DOE
Jean Sulc	David Adcock	George Klippa, DOE
Leon G. Chavous	Ernie Chaput	Bill Johnson, WSRC
	Bill Boettinger	Phil Breidenbach, WSRC
	R. Anderson	John Dickenson, WSRC
	Paul Murray	Ken Parkinson, WSRC
-NM committee members	Don Orth	Bob McQuinn, WSRC
*CAB Technical Advisor	W. D. Hooker	Matt Pelc, WSRC
+Facilitator		Steve Howell, WSRC
^Press		Mike Low, WSRC
		Tom Campbell, WSRC
		Jim Cook, WSRC
		Mike Logan, WSRC
	^ Tim Smith	Steve Williams, WSRC
	* Rick McLeod	Michael Chandler, WSRC
	+ Mike Schoener	John Dewes, WSRC
		Barry Shedrow, WSRC
		Jim Moore, WSRC
		Lyddie Broussard, WSRC

Welcome and Introduction
Mike Schoener opened the workshop with an explanation of the day's agenda and provided

guidance for conduct of the workshop. Jerry Devitt welcomed all of the attendees and extended his thanks to the Department of Energy (DOE) and Westinghouse Savannah River Company (WSRC) for their efforts to produce the workshop. As an introduction to the purpose of the workshop, Sachiko McAlhany highlighted the major events that led to the authorization to proceed with the deactivation of F-Canyon. She said that in the last two years tremendous success has been achieved in material stabilization activities and significant landscape changes were made at SRS. She described the successful H-Canyon activities that led to meeting Defense Nuclear Facilities Safety Board commitments earlier than projected. At the same time, F-Canyon's suspension activities have been very successful in reducing hazards. Ms. McAlhany explained that the Department has recently authorized proceeding with F-Canyon deactivation, and the purpose of today's workshop was to provide the stakeholders with the strategy and plans for F-Canyon. She said DOE would welcome any input during this very early stage.

Bill Johnson greeted the audience and told them that F-Canyon deactivation is the key to accelerated cleanup for all of DOE's Environmental Management (EM) activities. He said the importance of this project was recognized not only at SRS but at DOE Headquarters as well. According to Mr. Johnson, this project is seen as a model for how to accelerate cleanup and accomplish it safely for the benefit of our citizens, the region, the Department, and our employees. Mr. Johnson encouraged the public to comment on the plans, processes, and on the objectives of deactivation and to provide any feedback on how this can be done in the safest possible way.

Phil Breidenbach was then introduced as the day's primary speaker and asked to begin the first of a series of presentations on the F-Canyon Complex Project.

F-Canyon Complex Project – Current Project Status / Benchmarking, Philip Breidenbach, WSRC, Closure Business Unit

Mr. Breidenbach opened his presentation with a recap of the more than 50-year history of F-Canyon and FB-Line. He explained the workshop's focus was F-Canyon deactivation, which he defined as the process of placing the facility in a safe and stable condition by the elimination or reduction of hazards. He contrasted this with decommissioning which represents the actions taken at the end of a facility's life to permanently eliminate any residual hazards. Under the current authorization, only deactivation actions for F-Canyon and FB-Line have been approved. Mr. Breidenbach characterized the F-Canyon Complex Deactivation Project goal as one to complete the de-inventory of FB-Line and to place it as well as F-Canyon and other support buildings in a cold, dark, and dry state.

To demonstrate the significant progress made to date, Mr. Breidenbach recapped the status of each of the primary hazards found in F-Canyon. He attributed the notable progress in the reduction of hazards, in part, to the benchmarking process that he and his team followed. He explained how the lessons learned from other DOE sites as well as at SRS were factored into the F-Canyon Complex plans. According to Mr. Breidenbach, the key to their success has been the ongoing elimination of hazards in lieu of managing them. For this reason, a key issue to successful deactivation is to complete the deinventory of FB-Line.

While much has been accomplished, he said there is still a considerable amount of work remaining. Mr. Breidenbach explained that some of the efforts under deactivation included the relocation of ongoing services to the rest of SRS that had been formerly provided by the F-Canyon Complex. These functions include cold chemical supplies, area alarms, cooling water to 235-F, and returns from the site laboratories. He closed his presentation by saying that by using an integrated yet flexible plan, significant hazard reduction and cost savings are being realized in the F-Canyon Complex.

F-Canyon Complex Project – End Point Strategy, Steve Williams, WSRC, Closure Business Unit

Mr. Williams began his presentation by reiterating the differences between deactivation and decommissioning. He stated that since the current authorized mission is only to deactivate the F-Canyon Complex, it was important to define a series of end points whereby the hazards were reduced to a known level and the F-Canyon Complex could be maintained under a surveillance and maintenance (S&M) mode pending a decommissioning decision.

He explained the principles that were used to ensure a disciplined, systematic approach to define deactivation tasks were incorporated to ensure hazards are reduced in a cost effective and safe manner. He highlighted some of the early decisions and detailed the background behind the end points defined under deactivation. According to Mr. Williams, each facility end point is designed to ensure the protection of the public, the environment, and the S&M worker as well as to reduce S&M costs and facilitate decommissioning.

Mr. Williams cited several examples of the 8800 defined end points and explained the process by which an endpoint would be documented, closed, and turned over to the receiving organization. Under the process explained by Mr. Williams, each end point would be documented in a formal package, which will be validated by an independent team prior to turnover. He stated that by using this approach, all parties readily understand the results and this will facilitate future decommissioning efforts.

F-Canyon Complex Project – Environmental Strategy, John Dewes, WSRC, Closure Business Unit

Mr. Dewes characterized his function as one to ensure that all regulatory commitments are met by the project. He explained that in a facility such as F-Canyon, one of the primary concerns is what level of effort will be needed to decommission it to ensure public safety and what are the associated risks in performing those actions.

He described F Area as one with a mixture of facilities in various stages of their lifecycle. He said it is difficult to determine what is the optimum level for risk reduction to be achieved at deactivation, but F-Canyon enjoys the advantage of having the facility staff still available to help define the scope of deactivation. According to Mr. Dewes, having a team with a working knowledge of the facility processes far exceeds the typical deactivation scenario whereby a technical team reviews historical documents. For example, through their working knowledge of actual facility conditions, the current operations staff can take the needed steps to ensure that sampling activities for environmental concerns are maintained at the lowest risk. He said their

focus is on doing the smart things now, during the deactivation phase, and to factor in the lessons learned as plans are made for future activities.

Mr. Dewes discussed the DOE methodology that leads to defining end points and how to determine at what point you address hazards. He pointed out that in some cases, it might make sense to defer some activities until the decommissioning phase. For example, this may be true in some cases to take advantage of radioisotopic decay. To properly apply this strategy, you must know what hazards you actually have, what hazards you must address at deactivation, and then what hazards you are leaving behind that should be addressed beyond deactivation. Flexibility should be a part of your strategy according to Mr. Dewes. In some cases you may find that if your capability could be limited later or it is more cost effective to accelerate addressing a hazard, the planned scope should be adjusted accordingly.

Mr. Dewes explained that in order to understand what can be left in a facility, consideration must be given to all potential points of exposure. He contrasted the differences between the actual plan and the analysis model, and pointed out the conservatism of the assumptions being used in the analysis. Mr. Dewes said that through analysis, a determination can be made of any potential disconnects in the planned deactivation activities so that alternative strategies may be developed if needed. By refining the analysis and work plan as well as monitoring the results throughout deactivation, the safety of the S&M phase is ensured according to Mr. Dewes.

F-Canyon Complex Project – Vessel Flushing, Tom Campbell, WSRC, Closure Business Unit

Mr. Campbell described the F-Canyon Complex Vessel flushing program as one where the process vessels are flushed to reduce residual contamination and potential hazards are minimized or eliminated. He said the flush loops were defined and the associated flush criteria were established to ensure criticality and hydrogen concerns were eliminated and any remaining hazardous constituents would not exceed regulatory limits.

According to Mr. Campbell, the schedule for flushing is based on vessel availability. As a vessel is flushed, it is isolated to prevent any further additions. Some vessels are not yet available for flushing due to deactivation activities, but should be flushed and isolated during 2004.

To further explain the process, Mr. Campbell outlined the typical procedure for flushing a vessel. He contrasted that procedure with the flush procedure planned for any vessel that has the potential to contain organic solids. Mr. Campbell reminded the stakeholders that earlier they had raised questions about the potential for an organic scum containing plutonium to be left in some of the vessels. To address the issue, a caustic solution is being used if scum is a possible concern in a vessel. Confirmatory samples are made to ensure limits were met regardless of which flush procedure is used according to Mr. Campbell.

F-Canyon Complex Project – Safety Bases Document Strategy, Mike Low, WSRC, Closure Business Unit

Mr. Low opened his presentation with an overall description of the five phases of the Integrated Safety Management System (ISMS) process. To clarify the relationship of safety documentation

to safety management functions, Mr. Low defined the key safety documents that are represented in each of the five phases of ISMS.

In determining the controls needed for safe operations, potential accident scenarios must be analyzed and the associated consequences documented. Mr. Low stated that existing safety documents contain the analyses and controls that bound both operations and deactivation activities for the F-Canyon Complex. He explained that through the analyses performed, appropriate controls have been formally put in place to ensure the safety of the facility worker, the public and the environment. He then compared the risks of F-Canyon in an operations mode to F-Canyon during the de-inventory and deactivation phase. Mr. Low stated the result is a significant reduction in risk both to the public and the workers realized through deactivation.

Mr. Low said that an important aspect of the safety documentation process is to recognize that as facility conditions change through deactivation activities, controls may also change. A key to this process is to re-evaluate controls as work is completed to see if they are still needed or are appropriate. According to Mr. Low, the removal or reduction of such a control does require a formal review and approval before any control is changed.

F-Canyon Complex Project – Ventilation Study & Water Intrusion, Steve Howell, WSRC, Closure Business Unit

Mr. Howell began by describing the ventilation of the F-Canyon Complex as a system designed to maintain airflow from the lowest to highest contamination area. He said that as a safety precaution, the system ensures the air is filtered and monitored before any discharge is made to the environment. When F-Canyon was in a processing mode, multiple supply and intermediate fans were used to maintain ventilation. To support deactivation, a Ventilation Study Team made up of various experts was formed to determine what reasonable alternatives to the existing ventilation system could be adopted to support the goal of cold, dark, and dry at the end of deactivation.

As a result, the Ventilation Team has proposed a design that will alter the existing flow path and reduce the number of fans used for F-Canyon and FB-Line, but still maintains safe discharges to the environment. To incorporate these design changes, numerous facility modifications will be required. Mr. Howell explained that a computer simulation model is being developed to validate the initial design of the proposed ventilation system. Feedback from the computer simulation will be used to enhance the proposed design according to Mr. Howell.

Water intrusion is also a concern for the F-Canyon Complex and engineering studies are in progress. He said determinations of what is needed to condition the facility air to avoid condensation as well as what actions are needed to maintain roof integrity will be made in the near future.

Breakout Sessions

Upon return from their lunch break, stakeholders were given one hour to meet with the various presenters and associated subject matter experts in individual/small group sessions to ask questions on the following topics:

1. Environmental Strategy for F Area
2. Holdup Measurements
3. Ventilation Study
4. Vessel Flushing
5. Safety Bases

While meeting summary notes were not taken at these small group sessions, stakeholders were advised to provide any comments for the record during the public comment period.

Workshop Summary
Phil Breidenbach called the workshop to order after the breakout session and summarized the day with the following key points:

- The project focus is to reduce hazards to the workers, the public, and the environment. Through their existing efforts, risks have already been dramatically reduced by a factor of 10,000,000.
- Cost reductions and saving taxpayer dollars are also key to the project. At this point $170M has been saved over the original estimate.
- Deactivation is proceeding with a detailed plan that includes a defined scope, cost, and schedule but this team is seeking opportunities to change and improve this plan whenever possible.
- Much of the F-Canyon Complex success has been achieved through benchmarking to find the best practices and to know what issues should be avoided.
- We are thinking ahead in the facilities' lifecycle and as we make decisions, we are looking towards the impact on decommissioning.

Public Comment
Wade Waters extended his thanks to Jerry Devitt as well as the WSRC and DOE team for the outstanding workshop. He stated that he would like to propose to his fellow members of the Nuclear Materials Committee that they develop a recommendation to deal with these topics:

- Endorse the pathforward to deactivation as we have heard in the workshop
- Develop a realistic timeline to complete deactivation
- Propose that when deactivation has been completed, move immediately to the decommissioning phase
- Propose that the end state be determined to be encapsulation in place since it makes no sense to remove contaminated equipment from a totally secure place only to bury it in some less secure location. We should encourage them to just do it and be done with it.

Lee Poe expressed a similar feeling and called for DOE to secure the necessary approvals to proceed with the entombment of F-Canyon.

Mr. Devitt asked for any other public comment and with none, he then adjourned the meeting at 2:45 PM.

For additional information or meeting handouts, call 1-800-249-8155.

Follow-Up Actions

1. Set up an F-Canyon Complex tour in 2004 for the CAB and committee members. Requested by Sam Booher Responsible Party: Steve Williams/Sachiko McAlhany

   NOTE: This action is dependent on site security requirements for off-site visitors

2. Provide a copy of the flushing results. Requested by Lee Poe Responsible Party: Tom Campbell